

Remarks

The present Amendment is submitted in response to an Office Action dated January 3, 2003. In the Office Action, the Examiner rejected claims 1-20 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,168,709 to Bombard in view of European Patent Application No. EP552,750A to Rudat.

Applicants note with appreciation that the objections to the specification and the claims have been withdrawn in view of Applicants' previous response to the Office Action dated August 29, 2003. In addition, Applicants note with appreciation that the rejections under 35 U.S.C. §112 have been withdrawn in view of Applicants' previous response to the Office Action dated August 29, 2003.

With respect to the rejection of the claims under 35 U.S.C. §103(a) as being unpatentable over Bombard in view of Rudat, Applicants respectfully submit that the claims distinctly define the present invention over any of the art of record, taken alone or in combination, for the reasons that follow.

More specifically, independent claim 1 defines a method of cleaning a pressurized container comprising the steps of: (1) providing a pressurized container containing an amount of anhydrous ammonia therein; (2) injecting a quantity of heated nitrogen gas into the container to form a nitrogen/anhydrous ammonia mixture, wherein said heated nitrogen gas is a sufficient temperature and pressure such that injection of the heated nitrogen gas and venting of said nitrogen/anhydrous ammonia mixture occurs without mechanical means, such as pumps, suction, blowers or the like; (3) venting the nitrogen/anhydrous ammonia mixture to a flare; and (4) repeating the injection of heated nitrogen gas into the container and venting to the flare until the concentration of the anhydrous ammonia within

the mixture is less than or equal to about 10,000 ppm. Nothing in the art of record teaches or suggests this combination of steps to clean a pressurized container containing anhydrous ammonia.

Rather, Bombard merely teaches a system for drying and ventilating jet fuel tanks for reducing the fuel fume level from residual fuel in an emptied fuel tank. The steps, machinery, and overall system of both Bombard and Rudat are quite different from what is claimed in amended claim 1. Bombard uses a closed system, and a series of pumps and suctions to remove air and vaporized jet fuel from the fuel tank. The air is forced through a vapor recovery unit to cause condensation of the vaporized jet fuel for collecting the jet fuel. The air is then heated and forced back into the fuel tank and the process is repeated until the walls of the tanks are dry. A vacuum hose is then added to the fuel tank to remove the puddles of fuel within the fuel tank.

In the present invention, a quantity of heated nitrogen is injected into a pressurized container without mechanical means, such as suctions, pumps or blowers. The pressurized container may be a mobile railcar having a quantity of anhydrous ammonia contained therein. The nitrogen gas combines with the anhydrous ammonia to form a nitrogen gas/anhydrous ammonia mixture. The mixture is then released from the container where it is a sufficient temperature and pressure to travel to a flare, where the anhydrous ammonia is incinerated. The method is repeated until the concentration of anhydrous ammonia reaches a predetermined level.

The method described in the present invention can accomplish efficient cleaning of the container without the series of pumps or vacuums that is required by Bombard. Heating the nitrogen gas in the present invention provides sufficient pressure within the

container so that merely opening a valve between the container and the flare allows the mixture to vent to the flare and be incinerated. In addition, the system described in the present invention is not a closed loop, in that the nitrogen gas utilized to form the nitrogen/anhydrous ammonia mixture is released to the atmosphere after venting to the flare. More specifically, the nitrogen gas is not recovered and sent back to the container after the material to be removed (i.e. anhydrous ammonia) is removed from the nitrogen gas, as is described in Bombard. This ensures that the nitrogen gas injected into the container comes from a source of pure nitrogen that is free of anhydrous ammonia, and therefore more efficiently vaporizes and combines with the anhydrous ammonia to form the nitrogen gas/anhydrous ammonia mixture.

It is respectfully submitted that Bombard cannot be combined with Rudat to arrive at the claimed invention. Bombard describes a closed system, whereby fuel vapor is recovered, and air is recirculated back into the fuel tank using a series of pumps and/or blowers. The flare described by Rudat cannot be utilized in the Bombard system without fundamentally changing the Bombard system from a closed system to an open system. By changing the system of the present invention to a closed system, as is described in Bombard, the present invention could not accomplish the efficient cleaning of the container without utilizing pumps, suctions, blowers, or other mechanical means.

Moreover, the Bombard system actually teaches away from combining the flare of the Rudat reference to the closed system of the Bombard system because the flare would fundamentally change the nature of the system described in Bombard. Bombard describes a closed loop system wherein fuel vapor is recovered from a quantity of air via a condenser, and the air is then recirculated back into the fuel tank using pumps, suctions,

blowers or other mechanical means. As described above, the present invention relates to a method of utilizing a system having an open end, wherein the nitrogen gas is thereafter released into the atmosphere after venting the mixture to the flare without the use of pumps, suction, blowers or other mechanical means. No anhydrous ammonia or nitrogen is recovered, but instead, the nitrogen is cleanly and efficiently incinerated in the flare and the nitrogen gas escapes to the atmosphere.

With the analysis of the deficiencies of the Bombard and Rudat patents in mind, as enumerated above, no reason or suggestion in the evidence of record exists why one of ordinary skill in the art would have been led to produce the claimed invention. Therefore, *prima facie* obviousness has not been established by the Examiner as required under 35 U.S.C. §103(a). Since the Examiner has failed to establish a *prima facie* case of obviousness in combining Bombard with Rudat, the rejection of the claims under 35 U.S.C. §103(a) has been overcome and should be withdrawn.

Claims 2-10 depend from independent claim 1; and claims 12-20 depend from independent claim 11. These claims are further believed allowable over the references of record for the same reasons set forth above with respect to their parent claims since each sets forth additional steps of Applicants' novel methods.

CONCLUSION

In view of the foregoing remarks and amendments, Applicants respectfully submit that all of the claims in the application are in allowable form and that the application is now in condition for allowance. If, however, any outstanding issues remain, Applicants urge the Examiner to telephone the Applicants' attorney so that the same may

In re Tunney, et al.
U.S. Patent Application No. 09/689,035


be resolved and the application expedited to issue. Applicants respectfully request the Examiner to indicate all claims as allowable and to pass the application to issue.

Respectfully submitted,

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